WHAT IS CLAIMED IS:

1. A system for responding to destination failures involving SPVx connections comprising:

a primary source node;

a primary source switch for producing an SPVx connection, the primary source node in communication with the primary source switch;

a primary destination node;

a primary destination switch for receiving the SPVx connection, the primary destination node in communication with the primary destination switch, the connection following a primary path between the primary source node and the primary destination node;

an alternate destination node, the primary destination switch redirecting automatically the primary connection to the alternate destination node along an alternate path when the primary destination switch detects a failure of the primary path, the alternate path formed by the primary source node and the alternate destination node only after the primary path experiences a failure.

2. A system as described in Claim 1 wherein the primary destination switch releases the SPVx connection after there is a fault detected on the primary path.

3. A system as described in Claim 2 wherein the primary source switch makes multiple attempts to reestablish the SPVx connection with the primary destination node after a failure is detected on the primary path.

4. A system as described in Claim 3 wherein the primary source switch redirects automatically the SPVx connection to the alternate destination node.

5. A system as described in Claim 4 wherein the primary source switch re-establishes the the SPVx connection to the primary destination node when the failure condition clears.

6. A system for responding to failures involving SPVx connections comprising:

a primary source node;

a primary source switch for producing an SPVx connection, the primary source node in communication with the primary source switch;

a primary destination node;

a primary destination switch for receiving the SPVx connection, the primary destination node in communication with the primary destination switch, the connection following a primary path between the primary source node and the primary destination node; and

an alternate source node, the alternate source switch re-establishing automatically the connection to the primary destination node along an alternate path when the primary source switch detects a failure of the primary path, the alternate path formed by the alternate source node and the primary destination node only after the primary path experiences a failure.

7. A system as described in Claim 6 wherein the primary source switch in communication with the alternate source switch to identify to the alternate source switch there is a failure in regard to the primary path.

8. A system as described in Claim 7 wherein the alternate source switch re-establishes the SPVx connection from the alternate source node to the primary destination node when the primary source node fails.

9. A system as described in Claim 7 wherein the alternate source switch re-establishes the SPVx connection from the alternate source node to the primary destination node when a link between the primary source node and the primary source switch fails.

10. A system as described in Claim 7 wherein the alternate source switch re-establishes the SPVx connection from the alternate source node to the primary destination node when the primary switch fails.

11. A system as described in Claim 7 including a network, and wherein the alternate source switch re-establishes the SPVx connection from the primary source switch to the primary destination node through the alternate source switch and a primary portion of the alternate path through the network when a primary portion of the primary path through the network fails.

12. A system as described in Claim 7 including a network, and wherein the alternate source switch re-establishes the SPVx connection from the alternate source switch to the primary source switch to the primary destination node through a primary portion of the primary path through the network when the primary

source node fails and a primary portion of the alternate path through the network fails.

13. A system as a described in Claim 10 wherein the primary source node re-establishes the connection from the primary source node to the primary destination node if the failure has cleared.

14. A system for responding to failures of connections in a network comprising:

a primary source switch having multiple re-route options;

a primary source node connected to the primary source switch;

a primary destination switch; and

a primary destination node connected to the primary destination switch:

the primary source node establishing a single end-to-end connection across the network between the primary source node and the primary destination through the primary source switch, the primary source switch re-routing the connection across the network along one of the multiple re-route options by maintaining just one end-to-end connection between the primary source node and the primary destination node when the single end-to-end connection fails.

15. A system as described in Claim 14 wherein the primary destination switch releases the single end-to-end

connection after there is a fault detected on the single end-to-end connection.

16. A system as described in Claim 15 wherein the primary source switch makes multiple attempts to reestablish the single end-to-end connection with the primary destination node after a failure is detected on the single end-to-end connection.

17. A system as described in Claim 16 wherein the single end-to-end connection is an SPVX connection and wherein the primary source switch redirects automatically the SPVx connection to the alternate destination node.

18. A system as described in Claim 17 wherein the primary source switch re-establishes the SPVx connection to the primary destination node when the failure condition clears.

19. A system as described in Claim 18 wherein the primary destination switch releases the SPVx connection after there is a fault detected on the primary path.

20. A system as described in Claim 19 wherein the primary source switch makes multiple attempts to reestablish the SPVx connection with the primary destination node after a failure is detected on the primary path.

21. A system as described in Claim 20 wherein the primary source switch redirects automatically the SPVx connection to the alternate destination node.

22. A method for responding to failures involving SPVx connections comprising the steps of:

forming an SPVx connection between a primary source node and a primary destination node;

detecting a failure on a primary path having the primary source node; and

re-establishing automatically the SPVx connection along an alternate path having the primary destination node.

23. A method as described in Claim 22 including the step of communicating between a primary source switch in communication with the primary source node and a alternate source switch in communication with an alternate source node to identify to the alternate source switch there is a failure in regard to the primary source node.

24. A method as described in Claim 23 wherein the re-establishing step includes the step of re-establishing the SPVx connection from the alternate source node to the primary destination node when the primary source node fails.

25. A method as described in Claim 24 wherein the re-establishing step includes the step of re-establishing the SPVx connection from the alternate source node to the primary destination node when a link between the primary source node and the primary source switch fails.

26. A method as described in Claim 23 wherein the re-establishing step includes the step of re-establishing the SPVx

connection from the alternate source node to the primary destination node when the primary source switch fails.

27. A method as described in Claim 23 wherein the re-establishing step includes the step of re-establishing the SPVx connection from the primary source switch to the alternate source switch to the primary destination node through a primary portion of the alternate path of a network when a primary portion of the primary path through the network fails.

28. A method as described in Claim 23 wherein the re-establishing the SPVx step includes the step of re-establishing the SPVx connection from the alternate source switch to the primary source switch to the primary destination node through a primary portion of the primary path when the primary source fails and a primary portion of the alternate path through the network fails.

29. A method as described in Claim 24 including the step of re-establishing the SPVx connection from the primary source switch to the primary destination node of the failure has cleared.

30. A method for responding to destination failures involving SPVx connections comprising the steps of:

forming an SPVx connection between a primary source node and a primary destination node;

detecting a failure in a primary path between the primary source node and the primary destination node; and

redirecting automatically the SPVx connection to an alternate destination node.

31.   A method as described in Claim 30 including the step of making multiple attempts to reestablish the SPVx connection with the primary destination node.

32.   A method as described in Claim 31 wherein the detecting step includes the step of detecting a failure of the primary destination node.

33.   A method as described in Claim 32 including the step of releasing the SPVx connection by the primary destination node.

34.   A method as described in Claim 33 wherein the redirecting step includes the step of redirecting automatically by the primary source node the SPVx connection to the alternate destination node.

35.   A method as described in Claim 34 including after the redirecting step there is the step of trying to restore the SPVx connection with the primary destination node.

36.   A method as described in Claim 35 including the step of configuring failure codes that trigger a redirection of the SPVx connections.

37.   A method for responding to failures of connections in a network comprising the steps of:

establishing a single end-to-end connection across a network between a primary source node and a primary destination node with multiple re-route options;

experiencing a failure in the connection; and

re-routing the connection across the network along one of the multiple re-route options by maintaining just one end-to-end connection between the primary source node and the primary destination node.

38.   A method as described in Claim 37 wherein the experiencing step includes the step of detecting a failure in the primary destination node; and the re-routing step includes the step of redirecting automatically the connection to an alternate destination node.

39.   A method as described in Claim 38 wherein the detecting step includes the step of detecting a failure of the primary destination node.

40.   A method as described in Claim 39 including the step of releasing the SPVx connection by the primary destination node.

41.   A method as described in Claim 40 wherein the redirecting step includes the step of redirecting automatically by the primary source node the SPVx connection to the alternate destination node.

42.   A method as described in Claim 41 including after the redirecting step there is the step of trying to restore the SPVx connection with the primary destination node.

43.   A method as described in Claim 42 including the step of configuring failure codes that trigger a redirection of the SPVx connections.

44. A method as described in Claim 43 including the steps of making multiple attempts to reestablish the connection with the primary destination node.

45. A method as described in Claim 37 wherein the experiencing step includes the step of detecting a failure on a primary path having the primary source node and the re-routing step includes the step of redirecting automatically the connection along an alternate path having the primary destination node.

46. A method as described in Claim 45 including the step of communicating between a primary source switch in communication with the primary source node and a alternate source switch in communication with an alternate source node to identify to the alternate source switch there is a failure in regard to the primary source node.

47. A method as described in Claim 46 wherein the re-establishing step includes the step of re-establishing the connection from the alternate source node to the primary destination node when the primary source node fails.

48. A method as described in Claim 46 wherein the re-establishing step includes the step of re-establishing the connection from the alternate source node to the primary destination node when a link between the primary source node and the primary source switch fails.

49. A method as described in Claim 46 wherein the re-establishing step includes the step of re-establishing the connection from the alternate source node to the primary destination node when the primary source switch fails.

50. A method as described in Claim 46 wherein the re-establishing step includes the step of re-establishing the connection from the primary source switch to the alternate source switch to the primary destination node through a secondary portion of the alternate path of a network when a primary portion of the primary path through the network fails.

51. A method as described in Claim 46 wherein the re-establishing step includes the step of re-establishing the connection from the alternate source switch to the primary source switch to the primary destination node through a primary portion of the primary path when the primary source node fails and a secondary portion of the alternate path through the network fails.

52. A method as described in Claim 49 influencing the step of re-establishing the end-to-end connection through the primary source switch when the failure clears.